

WHAT IS CLAIMED IS:

- 5 1. A document modification apparatus for modifying image data read by image input means, comprising:
- 5 region extracting means for extracting a plurality of regions from the image data, each region being a unit to be modified;
- 10 region selection means for selecting target regions to be modified from the plurality of regions through an operator;
- 10 modification specifying means for specifying kinds of the modifications for the target regions selected by the region selection means through the operator; and
- 15 modification image making means for making a modified image, based on the kinds of the modifications, in the regions in the image data selected by the region selection means, specified by the modification specifying means.
2. The document modification means according to claim 1, wherein the region extracting means extracts rectangle regions as the target regions to be modified, and the region extracting means comprises region attribute judgment means for judging an attribute for each rectangle region.
- 20 3. The document modification means according to claim 2, wherein the region attribute judgment means judges whether an attribute of each rectangle region that has been extracted is one of attributes such as "character", "photograph", "table", "ruled line", and "frame".
- 25 4. The document modification means according to claim 3, wherein the region extracting means integrates the rectangle region, whose attribute has been judged as "character" by the region attribute judgment means, per line and paragraph, and
- 35 the region selection means selects the target region to be modified per line and paragraph through the operator.

TOP SECRET

5. The document modification means according to claim 1,
wherein the region extracting means displays on a display
screen the rectangle regions extracted by the region extracting
5 means with the image data read by the image input means, and
selects whether each rectangle region on the display screen is
modified or not through the operator.
6. The document modification means according to claim 1,
10 wherein the modification instruction means displays an
at-a-glance menu showing the information regarding the kinds
of the modification, and selects the modification, to be applied
to the selected rectangle regions, from the kinds of the
modifications shown in the at-a-glance menu through the
15 operator.
7. The document modification means according to claim 1,
wherein the modification image making means comprises
memory means for storing position information of the selected
20 rectangle regions by the region selection means and the
modification information regarding the kinds of the
modifications specified by the modification specifying means,
and the modification image making means performs the
modification for the image data read by the image input means
25 based on the position information and the modification stored
in the memory means.
8. The document modification means according to claim 1,
further comprises resolution conversion means for changing a
30 resolution of the input image data to a reduced image; and
display means for displaying the reduced image obtained by the
resolution conversion means with the rectangle regions
extracted by the region extracting means.
- 35 9. A document modification apparatus for modifying image
data read by image input means, comprising:

region extracting means for extracting a plurality of regions from the image data, each region being a unit to be modified;

5 automatic modification means for automatically selecting target regions to be modified from the plurality of regions, and for automatically modifying the selected target regions based on modifications that have been set in advance; and

10 modification image making means for making an image modified image in the target regions selected by the automatic modification means based on the kinds of the modifications determined by the automatic modification means.

10. The document modification means according to claim 9, wherein the automatic modification means determines the
15 kind of the modification to be applied to each selected target region in consideration of the attribute for the selected target region and the position of the selected target region in the input image data.

20 11. The document modification means according to claim 9, wherein the region extracting means comprises region attribute judgment means for judging an attribute of each region,

25 and the attribute of each region to be judged by the region attribute judgment means is one of attributes "character", "photograph", "table", "ruled line", and "frame".

30 500 12. The document modification means according to claim 1, wherein the image input means converts the input image data to binary image data.

35 13. The document modification means according to claim 9, wherein the image input means converts the input image data to binary image data.

14. An image processing apparatus comprising:

